

Bid 23/10/2008 1627

METAUX SOLUTIONS (MONTREAL) INC.
2108, 32E AVENUE
LACHINE, QUEBEC
H8T 3H7

Tel.: (514) 633-8010

Sales Rep. : ERIC
Reference : LINDA LACELLE
Expiration Date : 22/12/2008

Customer: 6323336

Ship To :

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Same

Fax: 1 (613) 632-4443

Item No.	Description	Qty.	Price	Total	Tx
SH123	303 HEX .500 9 X 12' OU	106	8.30	896.40	A
SH123	303 HEX .500 17 X 12' DELIVERY APPROX 1 WEEK F.O.B MONTREAL THANKS, ERIC KAEHLERT.	204	7.69	1 568.76	A

Subtotal 2 465.16

TPS : 123.26

A) Regist :

Total : 2 588.42

OUTO KUMPU

Certificate of Test

* CERTIFICATION *

HEAT E50377

ORDER 0496191/001 SON 28063C BOL 0149304 TAG 1851525 05/07/08

SHIP TO:

Dart Aerospace Ltd

P.O. 7447

P/S 56842

01-40367

5/07/08

YOUR ORDER & DATE
CUST# CASTLE01

CUST TAG#IAC 4901

ITEM DESCRIPTION

GRADE 303

Size 303 CDA HEX BAR 1/2 STD

Ship Condition A

Country of Melt: BRL
Country of Mfg.: USA
NAFTA Country of Origin is Country of Melt

Total Bundles 1

SON Weight

2200

SPECIFICATIONS

MFG TO FINISHED BAR IN THE USA FROM BILLETS IMPORTED FROM BRITAIN

AMS 5640U TYPE I

ASTM A582 05

SOLUTION ANNEALED CONDITION

AISI-303, UNS S30300, SAE30303

UNS S30300, AISI 303

AM CASTLE 3303-11 R27

ASTM A484 06B

DIN 50049/EN 10204 3.1B

FREE OF CONT. CARBIDE NETWORK

NO WELD REPAIR

FREE OF MERCURY CONTAMINATION

MECHANICAL & OTHER TESTS

Test Condition A

Hardness as shipped 230 HBW

Hardness as shipped 97 HRBS

Hardness as converted from tensile

Grain size 8.5

Micro OK

Intergranular corrosion OK

Tensile strength, KSI (MPa) 111.0 (765)

0.2% Yield Strength, KSI (MPa) 98.5 (679)

Elongation % in 4D 37.0

Reduction of area % 55.0

CHEMICAL COMPOSITION

Carbon (C) .043
Phosphorus (P) .028
Silicon (Si) .430
Nickel (Ni) 8.660
Copper (Cu) .422
Nitrogen (N) .051
Titanium (Ti) .003
Tin (Sn) .012
Tantalum (Ta) .002
Columbium/
Tantalum (Cb+Ta) .003
Iron (Fe) Balance
Melt Practice EAF
Refining Practice AOD
De-long Ferrite 2.0

Manganese (Mn) 1.740
Sulphur (S) .338
Chromium (Cr) 17.250
Cobalt (Co) .119
Moly (Mo) .450
Columbium (Cb) .001
Aluminum (Al) .003
Boron (B) .001
Vanadium (V) .070

DATE RCVD 5/9/08
IAC 4901
APPROVED BY *[Signature]*

Knowingly & willfully falsifying or concealing a material act on this form, or making false, fictitious or fraudulent statements or representations herein could constitute a felony punishable under federal statutes.

We hereby certify that the test results shown in this report are correct and accurate as contained in the records of the company and are in compliance with the specifications, codes, and standards listed above.

M.F. Marcano, Quality Manager

M.F. Marcano

Shipping Order

24/10/2008

IX SOLUTIONS (MONTREAL) INC.
AVENUE
MACHINE, QUEBEC
H8T 3H7 Tel: (514) 633-8010

Order : 56842
Reference : 7447
Bid : 1827
Ship : NOTRE CAMION / OUR TRUCK

Customer: 6323336

Ship To

TST / collect

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Atti Chantal

Same

Tel: 1 (613) 632-3336

Item No.	Description	Qty.	Qty. Delivered	E/O Qty
SH123	303 HEX .500 17 X 12'	204	204	✓

F.O.B MONTREAL.

CERTIFICATE REQUIRED

EK

Shipping :
Package No :
Merchandise Received:

Ref. :
:

Shipping Order

24/10/2003

METALUX SOLUTIONS (MONTREAL) INC.
2108, 52E AVENUE
LACHINE, QUEBEC
H8T 3H7

Customer: 6323336

Order : 58642
Reference : 7497
R/R : 1527
Ship

Ship To

NGARE-GAMIGNY-GRU-TRUCK
TST / collect

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAMMERSBURY, ONTARIO
M5A 1K7

Tel: 1 (613) 632-3555

Same

Item No.

Description

Qty. Op. Price B.O. Qty

SN103 303 HEX 500
17 X 12

204 204

✓ 24/11/03

F.O.B MONTREAL

CERTIFICATE REQUIRED

EX

Shipping

Package No

Merchandise Received

Ref



2108, 32e Avenue t (514) 633-8010
 Lachine, Québec f (514) 633-8044
 H8T 3H7 1 800 558-8858
 info@metalsolutions.com
 1320 C, Volta t (450) 641-3330
 Boucherville, Québec f (450) 641-3332
 J4B 6G6 1 800 967-2003

Invoice	DATE	N°/NO.
	31/10/2008	97982

Sales Rep. : ÉRIC
Order : 56842
Reference : 7447
Terms : NET 30 JOURS / NET 30 DAYS
Ship : TST

Ship To :

Same

Tel. : 1 (613) 632-3336

Customer : 6323336

DART AEROSPACE LTD
 1270, ABERDEEN STREET
 HAWKESBURY, ONTARIO
 K6A 1K7

Item No.	Description	Ord	Inv.	B/O Qty	Price	Total	Tx
SH123	303.HEX 500 17 X 12'	204	204	0.	7.69	1 568.76	A

SHIP TST/COLLECT

CERTIFICATE REQUIRED

EK

RECEIVED NOV 0 6 2008

4) Regist :

Subtotal : 1 568.76
TPS : 78.44
Total : 1 647.20

TPS : 140667742RT - TVQ : 1017841196TQ0001

Receiving Report

Date: 8/11/03

Batch No: 0108778

Supplier: McSolutions

Dart P/O: 7447

Packing Slip: Yes ☒ No ☐
 Invoice: Yes ☐ No ☒
 Receipt: Cash ☐ Cr ☒

Release Note Attached: Yes ☐ No ☒ N/A
 Waybill Attached: Yes ☒ No ☐ N/A
 Shipment Complete: Yes ☒ No ☐ N/A
 QC6 Inspection: 08/11/03 Yes ☒ No ☐ N/A
 Work Order: N/A

Discrepancies

Part Number	Description	Quantity Ordered	Quantity Received	Quantity Returned	Quantity Short	Comments

Initials of receiver (if shipment OK) Level 12

Production/Admin: 0811105
 Date: 0811105
 Received/Costing: R29350
 Initial: C2

Location

DART AEROSPACE LTD		Work Order: 62407
Description: Ball Stud		Part Number: 13622-9
Inspection Dwg: 13622 Rev: C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.58	$\pm .030$.565	/			
.50	$\pm .030$.50	/			
$\emptyset .310$	$\pm .010$	$\emptyset .310$	/			
$\emptyset .215$	$\pm .010$	$\emptyset .215$	/			
$\emptyset .394$	$\pm .010$	$\emptyset .394$	/			
1.79	$\pm .030$	1.792	/			
.630	$\pm .010$.630	/			
.478	$\pm .010$.478	/			
.313	$\pm .010$.313	/			
.155	$\pm .010$.157	/			
.090	$\pm .030$.085	/			
1.160	$\pm .010$	1.162	/			
.3053 .3125	N/A	.308	/			
.3125-24-UNF 3A	N/A	.3125-24UNF	/			
M.O.W.	Min. 3336 Max. 3363	.335	/			

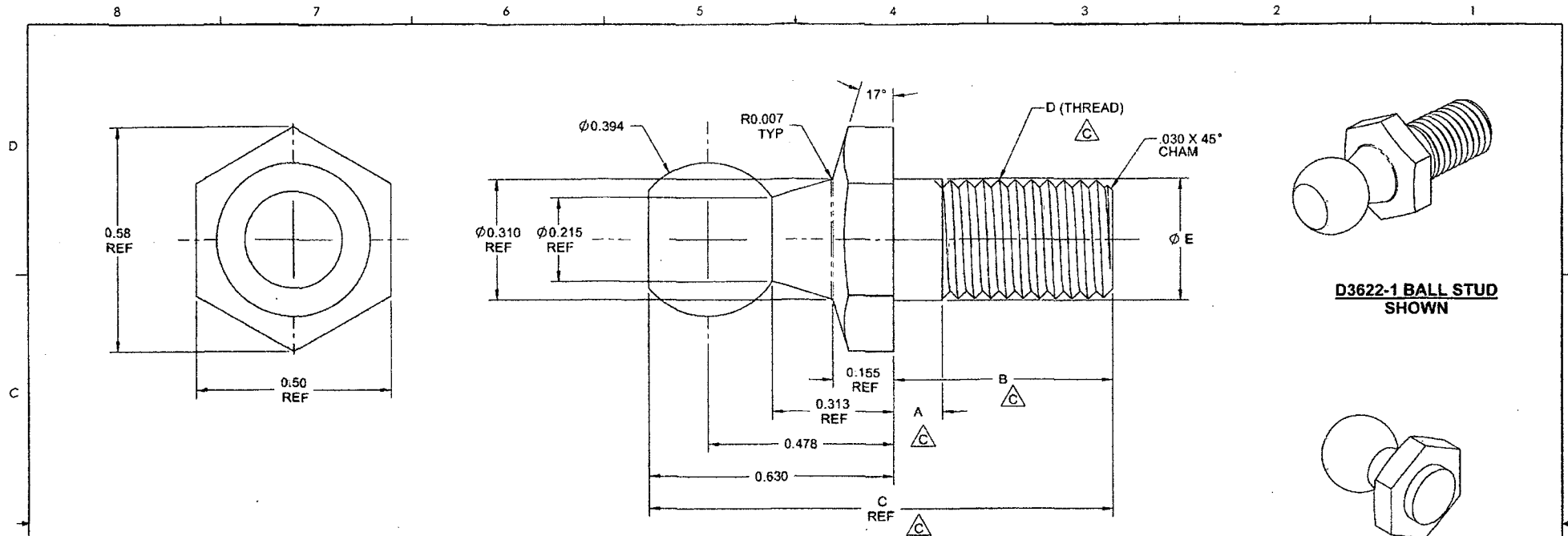
Measured by: SA
Date: 10/09/30

Audited by: [Signature]
Date: 10-09-30

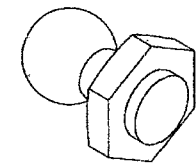
Preliminary Approval: N/A
Date: -

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

+ .830



D3622-1 BALL STUD SHOWN



D3622-11 BALL STUD SHOWN

PART NUMBER	DIM A	DIM B	DIM C	WEIGHT (LBS)	THREAD D	Ø E	
						MIN	MAX
D3622-1	0.125	0.563	1.19	0.03	0.3125-24UNF-3A	0.3053	0.3125
D3622-3	0.125	0.563	1.19	0.03	0.1875-32UNF-3A	0.1840	0.1900
D3622-5	0.090	0.900	1.53	0.04	0.3125-24UNF-3A	0.3053	0.3125
D3622-7	0.060	0.330	0.96	0.03	0.3125-24UNF-3A	0.3053	0.3125
D3622-9	0.090	1.160	1.79	0.04	0.3125-24UNF-3A	0.3053	0.3125
D3622-11	0.060	N/A	0.69	0.02	NOT THREADED	0.270	0.300
D3622-13	0.090	0.680	1.31	0.03	0.3125-24UNF-3A	0.3053	0.3125

D3622-X BALL STUD

w/ 62407

RELEASED
2010-09-23

- NOTES:
- 1) MATERIAL: AISI 303 HEX BAR
REF DART SPEC M303H0.500
 - 2) FINISH: N/A
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENT P/N D3622-X & B/N PER QSI 044
 - 7) WEIGHT: SEE D3622-X TABLE

C	SHEET 1: ADD -5, -7, -9, -11 & -13. ADD D3622-X TABLE. SHEET 2 DELETED	JPH	10.07.20
B	ADD -3 (SHEET 2)	HS	09.09.18
A	NEW ISSUE	MB	07.04.13
REV.	DESCRIPTION	BY	DATE
DESIGN	JPH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JPH	DRAWING NO.	REV. C
CHECKED		D3622	SHEET 1 OF 1
MFG. APPR.		TITLE	SCALE
APPROVED		BALL STUD	NTS
DE APPR.		COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	10.07.20		

Picklist Print

September 29, 2010 12:42:22 PM

Page 1

Work Order ID: 62407

Parent Item: D3622-9

Parent Item Name: Ball Stud

Start Date: 9/29/10

Required Date: 9/30/10

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A NEW ISSUE 10-09-23 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M303H0.500		Purchased	No			100	f	125.8880	0.108	0.454737			

303 HEX BAR .500

Location

Loc Qty

Loc Code

MAT037

125.888

109778

101.888

109846

24

SA 10/09/30

65 Rt

Work Order ID 62407

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Page 2

Item ID: D3622-9

Accept

Setup Start

Revision ID:

Stop

Item Name: Ball Stud

Start Date: 9/29/10 Start Qty: 4.00

Required Date: 9/30/10 Req'd Qty: 4.00

Cust Item ID:

Customer:

Reference:

Run Start

Approvals: Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan Accept Reject Reject Insp.
Code Qty Qty Number Stamp

130

Identify as per dwg & Stock Location: 070

0.00

Packaging

Memo

PPD 62779 1x^{0.00}

Packaging

10.10.12 (4)

140

QC21- Final Inspection - Work Order Release

0.00

QC

Memo

0.00

Quality Control

10.10.12

10-10-13 (4)

Work Order ID 62407

September 29, 2010 12:42:31 PM

Page 1

Item ID: D3622-9

Accept

Setup Start

Revision ID:

Stop

Item Name: Ball Stud

Start Date: 9/29/10 Start Qty: 4.00

Cust Item ID:

Required Date: 9/30/10 Req'd Qty: 4.00

Customer:

Reference:

Run Start

Approvals: Process Plan:

Date:

Tooling:

Date:

Stop

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3622

C

100

0.00

Hardinge CNC LATHE SMALL

Hardinge

Memo

0.00

Hardinge CNC Lathe Small

1-TURN AS PER FOLIO F968 & DWG D3622,
FOLIO REV: C
DWG REV: C
2-DEBURR AS REQUIRED

SA 10/09/30

4

Ø

110

QC2- Inspect parts off machine FAI/FAIB

0.00

QC

Memo

0.00

Quality Control

SA 10/09/30

4

Ø

120

QC8- Inspect parts - second check

0.00

QC

Memo

0.00

Quality Control

SA 10.09.30

4

Ø